Introduction

Given a folder containing a sequence of images, the problem is to compress all these images into a single file. Then, the program extracts and shows the compressed images from the file. The method for the program is an altered version of a Set Redundancy Compression method. The program checks through all each pixel of all images in the folder and takes note of each pixels highest and lowest value. With the minimum and maximum values in hand, the program proceeds to compress through each images.

Rationale

Why this method?

Initial idea for this problem is to merely use RLE method to compress each images in the folder. However, Set Redundancy Compression method’s advantages is that it can exploit repeating pixel values throughout the images. There are 3 known methods for Set Redundancy Compression and that is using the differential, the predictive and the centroid method. The second idea is to compress the image via predictive method. With predictive method, the program needs to calculate the levels of the image. The program manually calculated the levels for the first row and column of the pixel and proceeded to use MMP3 method of prediction with the rest. Then, the program uses this levels to create the predicted pixel. With the predicted pixel value created, the program only needs to take the difference of the subtracted and of the original to create the compressed version of the image. The problem of the second idea is the problem of decompressing the image when the only value available is the difference between the original and predicted value. The third idea then is to alter the MMP method and instead of calculating the levels of the pixel, the program proceeds to only change the range of the maximum and minimum values. The plan now is to reduce the variety of colors used by the image, culling values higher than the altered max and min.

Background

Why this method was created? Who created it? What is the pros and cons of using it

Methodology

How does this technique work?

Results and Discussion

What is the output? How fast does it perform? Is this the result you expected?

Conclusion

How was the experience? Is this a recommended technique? Things that can be improved?